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Foto de la portada: *Cyclocephala labidion*, male from La Sombra.

***Cyclocephala labidion* Ratcliffe, a new report for the
fauna of Nicaragua (Scarabaeidae: Dynastinae:
Cyclocephalini)**

Jean Michel MAES* & Brett C. RATCLIFFE**

Resumen

Se redescubre e ilustra *Cyclocephala labidion* Ratcliffe, nuevo reporte para la fauna de Nicaragua. Se compara con otras especies de aspecto similar, principalmente *Cyclocephala lunulata* Burmeister, con quien es casi idéntica.

Abstract

Cyclocephala labidion Ratcliffe is reported for first time from Nicaragua, described, illustrated, and compared with other species similar in appearance, especially *Cyclocephala lunulata* Burmeister with which it is nearly identical externally.

Key Words: taxonomy, scarab beetle, biodiversity, Central America, Neotropics

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Introduction

The Nicaraguan species of *Cyclocephala* Dejean were comprehensively reviewed by Ratcliffe and Cave (2006) who recorded 30 species in the country. *Cyclocephala* is a large genus that currently contains about 350 species, although new species are still being described. *Cyclocephala* species occur from southeastern Canada south to Argentina and in the West Indies. Most species occur in the Neotropical realm. Endrödi (1966, 1985) provided the most recent synopses of the entire genus, but over 100 new species have been described since that 1985 work. Consequently, the keys in that manual should be used with caution inasmuch as there now exists 46% more species than are in the keys.

Cyclocephala species may be recognized by a clypeus with sides slightly to distinctly converging to a rounded, parabolic, subtruncate, or emarginate apex; antenna with 8-10 antennomeres (9 or 10 in the Central American species) with the club sometimes longer in the males; maxilla armed with distinct teeth; and protarsus in the males distinctly enlarged with the median (or inner) claw much larger than the outer claw (claws in females are simple). Distinguishing the genus *Cyclocephala* from other genera of Cyclocephalini may occasionally be difficult. Species of *Aspidolea* Bates most closely resemble *Cyclocephala* species, but in *Aspidolea* species the sides of the clypeus are always divergent (sometimes only weakly) from the base before becoming rounded at the apex, whereas in *Cyclocephala* species the sides of the clypeus converge (even if slightly) to the apex. A more reliable character is the presence of distinct teeth on the maxilla in *Cyclocephala* species, whereas they are absent in *Aspidolea* species, except in the large and distinctive *A. fuliginea* (Burmeister). *Cyclocephala* species do not have the elongated mandible seen in most species of *Ancognatha* Erichson, and they also have a more or less complete frontoclypeal suture, which is obsolete medially in *Ancognatha* species. The form of the parameres of male *Cyclocephala* species are diagnostic.

Adults of *Cyclocephala* species are nocturnal, and they are attracted to lights at night. Several species are important, accidental pollinators of palms and aroids, a result of their feeding on floral parts (Young 1986; Gottsberger 1989; Gottsberger and Silberbauer-Gottsberger 1991). Only a few larvae have been described (mostly temperate species), and those feed on the roots of grasses.



Fig. 1. *Cyclocephala labidion*, male
Holotype from Costa Rica.



Fig. 2. *Cyclocephala labidion*, male from
La Sombra, Nicaragua.



Fig. 3. *Cyclocephala labidion*, female
from La Sombra, Nicaragua.



Fig. 4. *Cyclocephala lunulata*, male.

Cyclocephala labidion RATCLIFFE, was described in 2003 from Costa Rica and Panama, remaining a rare species. So far we know only the specimens of the original description, Las Cruces Field Station in Puntarenas, Costa Rica and Finca Hartmann, Chiriqui in Panama, both localities are both sides of the Costa Rica - Panama border. Specimens of Costa Rica and Panama were collected at 1000 and 1340 meters above sea level in disturbed premontane wet forest. Specimens from Nicaragua are darker and bigger than those of Panama, but morphological characters and genitalia match very well with the Panama species. We figured Holotype of *Cyclocephala labidion* from Costa Rica (Fig. 1) and specimens from Nicaragua (Figs. 2-3) to show the differences.

Material and Methods

In this paper, we adhere to the phylogenetic species concept as outlined by Wheeler and Platnick (2000). This concept defines species as the smallest aggregation of populations diagnosable by a unique combination of character states. Not all species are equally diagnosable. Some are easily recognized by examining one individual with a unique set of characters (e.g., the new species described herein), and some must be proposed only after many individuals from different populations are examined.

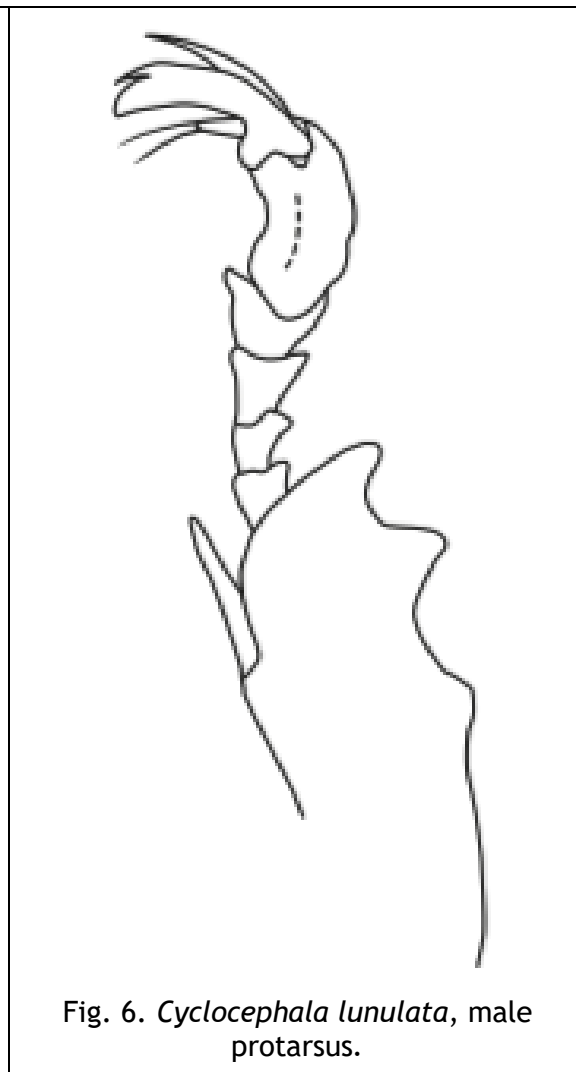
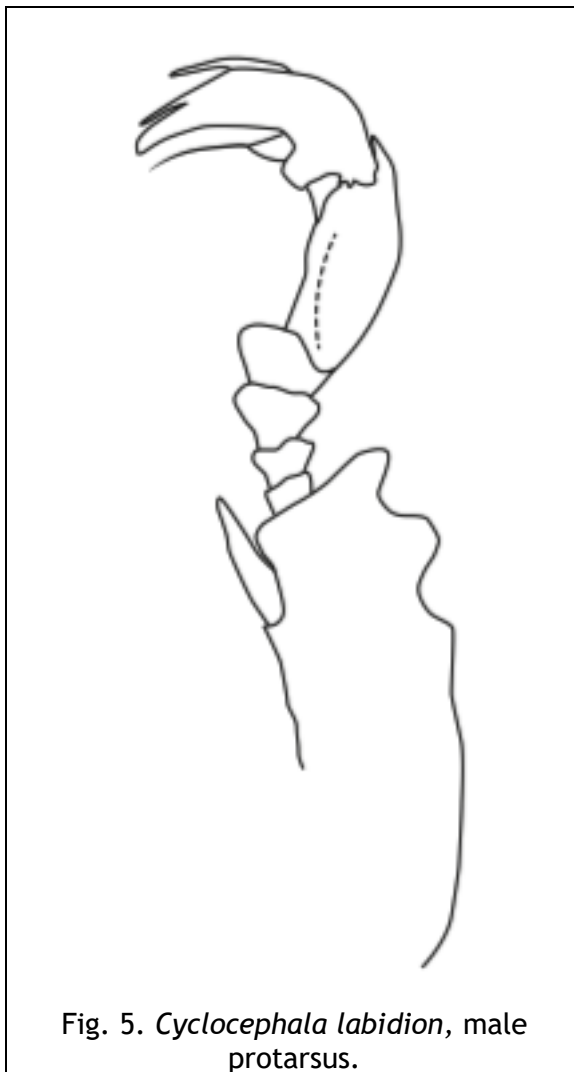
Cyclocephala labidion Ratcliffe, redescription

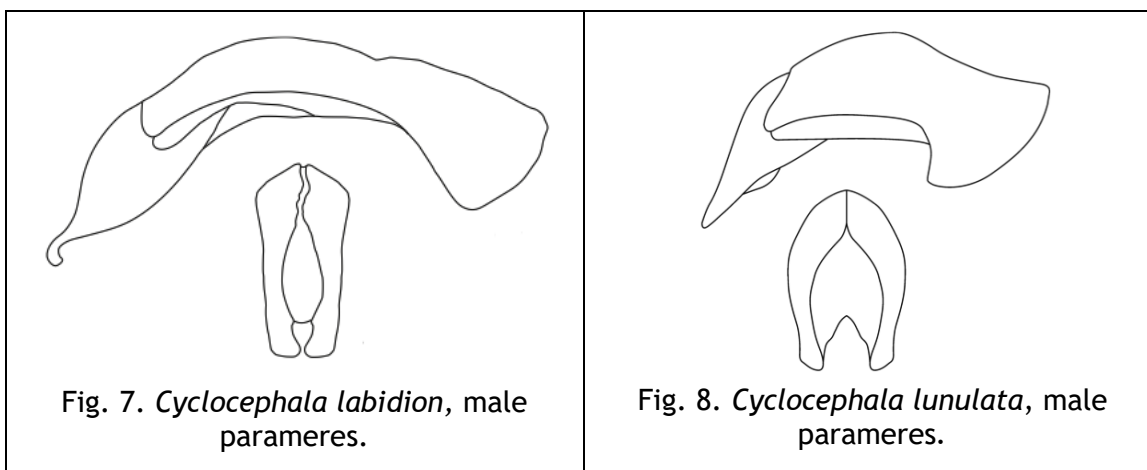
(Figs. 1-3, 5, 7, 9, 11-15)

Material. 9 males and 6 females labeled: "NICA: Matagalpa: La Dalia: La Sombra, alt. 1200 m, 13°11N - 85°45W, 19/21-V-2006, col.J.M. Maes".

Redescription based on Nicaraguan specimens. Male (Fig. 2). Length 14.8 mm; width 7.5 mm. Color dark testaceous with black frons and with diffuse, piceous marks on pronotum and distinct, piceous marks on elytra. Extreme apices of femora and tibiae piceous. Pronotal and elytral pattern "*lunulata*-type". **Head:** Frons moderately densely punctate, punctures small. Clypeus and apex of frons "roughened"; apex of clypeus subtruncate, slightly reflexed. Interocular width equals 3.1 transverse eye diameters. Antenna 10-segmented, club slightly longer than antennomeres 2-7. **Pronotum:** Surface with punctures moderate in density and size, punctures becoming slightly denser and larger on sides. Base lacking marginal bead. **Elytra:** Surface with punctures moderately large, moderately dense; punctate rows distinct. **Pygidium:** Surface finely scabrous, setigerous; setae small, moderately dense, tawny. In lateral view, surface weakly convex.

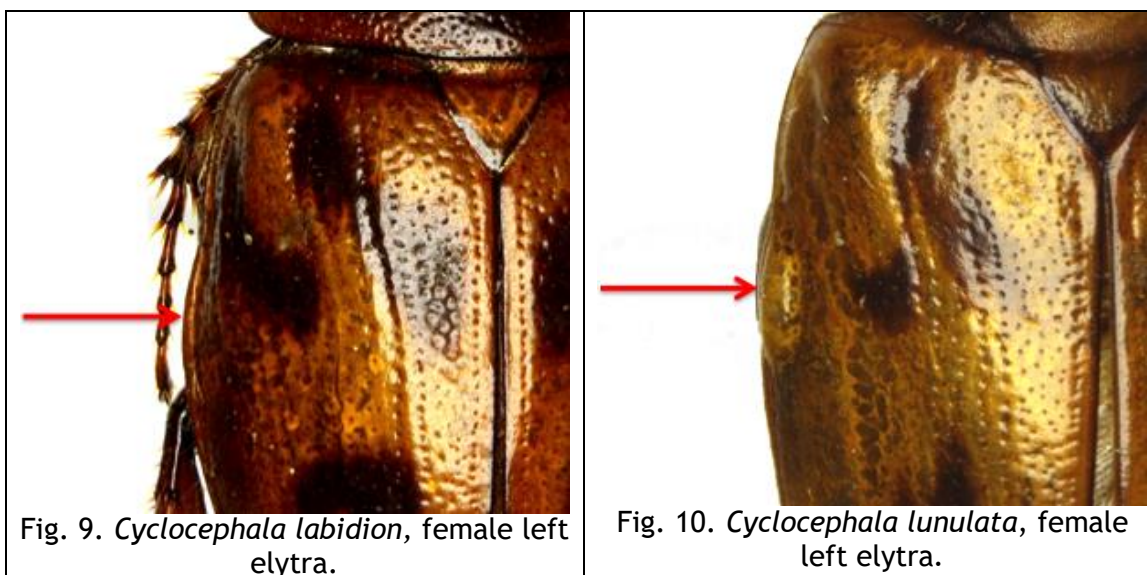
Legs: Protibia tridentate, teeth subequally spaced. Protarsomeres 3 and 4 distinctly flared ventrally. Protarsomere 5 enlarged (Fig. 5), slightly curved, venter slightly concave, distinctly longer than combined lengths of protarsomeres 1-4; medial claw large, strongly curved, apex cleft. Metatarsus distinctly longer than metatibia. **Venter:** Prosternal process moderately long, columnar, tapering, apex obliquely flattened into a round disc with raised, transverse button on anterior half. **Parameres:** Fig. 7. In caudal view, shape subrectangular, slightly tapering, apices bluntly rounded. In lateral view, apical half sharply constricted, apices acute, sharply bent ventrally.





Female. (Fig. 3). Length 13.3 mm; width across humeri 6.7 mm. As holotype except in the following respects: **Head:** Interocular width equals 3.0 transverse eye diameters. **Elytra:** Epipleuron (ventral view) constricted at level of metacoxa. Slight swelling at middle of elytron on lateral margin (Fig. 9) nearly flat in lateral view, explanate in caudal view.

Pygidium: Surface glabrous, with moderately large, moderately dense punctures except region of center-apex smoother with smaller, sparser punctures. In lateral view, surface nearly flat. **Legs:** Protarsus in females simple, not enlarged. Metatarsus subequal in length to metatibia.



Variation. Males (9 specimens). Length 14.0-15.5 mm; width across humeri 6.5-7.0 mm.

Females (6 specimens). Length 11.5-13.8 mm; width across humeri 5.9-7.6 mm.

DISTRIBUTION IN NICARAGUA. Even after multiple collecting events at the same locality by JMM, this species has been found only one time in 2006 at La Sombra (Fig. 12-13). The habitat is a mosaic of secondary cloud forest and coffee plantations (Figs. 14-15).



Fig. 11. *Cyclocephala labidion*, localities of the type specimens from Costa Rica and Panama.



Fig. 12. *Cyclocephala labidion*, locality of La Sombra, Nicaragua.



Fig. 13. *Cyclocephala labidion*, know distribution in Nicaragua, Costa Rica and Panama.



Fig. 14. Ecolodge La Sombra, Nicaragua.



Fig. 15. Secondary forest at La Sombra, Nicaragua.

TEMPORAL DISTRIBUTION. May (15). Type specimens from Costa Rica and Panama were collected in May (1) and November (2), perhaps collecting in La Sombra later in the year could give results.

Diagnosis. Externally, both sexes of *C. labidion* are nearly identical with *Cyclocephala lunulata* Burmeister, and both sexes of each species will key out to *C. lunulata* using the keys in Endrodi (1985) and Ratcliffe and Cave (2006). Both species are distinguished by the “*lunulata*-type” pattern on the pronotum and elytra in combination with a subtruncate clypeus, absence of a basal bead on the pronotum, setose pygidium in the males, and epipleuron slightly constricted at about the middle in females. *Cyclocephala labidion* was taken along with approximately 300 look-alike specimens of *C. lunulata* in the same collecting event.

In the field, *C. labidion* looked slightly different than *C. lunulata* because of its overall darker color (reddish brown as opposed to testaceous in *C. lunulata*) (compare Figs. 1-2 and 4), and the male protarsomeres are distinctly larger than those of *C. lunulata* (compare Figs. 5 and 6). When examined with magnification, protarsomeres 3 and 4 of *C. lasombrensis* are distinctly flared ventrally (especially 4), while those of *C. lunulata* are not flared ventrally on protarsomere 3 and only slightly on protarsomere 4. In addition, protarsomere 5 is distinctly longer than the combined lengths of protarsomeres 1-4 in *C. labidion*, while protarsomere 5 in *C. lunulata* is shorter than or subequal to the combined lengths of protarsomeres 1-4.

Females of both species can be recognized by the swelling on the lateral margin of the elytra at about the middle, and the epipleuron (ventral view) is constricted at the level of the metacoxa. In *C. labidion*, the swelling at the middle of the elytron on the lateral margin is flat in lateral view and explanate in caudal view (Fig. 9).

In *C. lunulata*, by contrast, the swelling at the middle of the elytron on the lateral margin (in lateral and caudal views) is distinctly tumescent and "pillow-like" (Fig. 10).

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